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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,885	06/27/2003	Scott L. Titus	RA 5557 (USYS.o69PA)	7228

27516 7590 02/14/2006

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EXAMINER

CHANNAVAJJALA, SRIRAMA T

ART UNIT PAPER NUMBER

2166

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/607,885	Applicant(s) TITUS ET AL.	
	Examiner Srirama Channavajjala	Art Unit 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-21 are presented for examination.

#### *Drawings*

2. The Drawings filed on 6/27/2003 are acceptable for examination purpose.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. ***Claims 16-21 are rejected under 35 U.S.C. 101 because invention is directed to non-statutory subject matter.***

At page 18, claim 16, line 3-4, "a computer-readable medium configured with .....perform the steps of..... would have been reasonably interpreted in light of the discloser by one of ordinary skill as software alone, the claim is directed to software per se and is non-statutory, *fails to constitute to practical application of an abstract idea, because these steps are not on a "computer readable storage medium", falls short of concrete or tangible result*

#### **REMARKS:**

Examiner recommends applicant amend the claims for example

***"a computer-readable storage medium....."***

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**5. *Claims 1-6,14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loaiza et al. [hereafter Loaiza] US Patent No. 6549901 published on April 15, 2003 in view of , US Patent No. 6128621***

6. As to claims 1, 15-16, Loaiza teaches a system which including 'maintaining a control file first and second control structures and first and second pointers to the first and second control structures respectively, for the data file [fig 1, element 130, element 140, element 150, col 3, line 32-37, line 58-65] wherein the first structure includes a

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plurality of pointers that respectively, allocated portions of usable space in the data file [col 8, line 27-34], and the second structure contains respective values that indicate a quantity of available space in a portion of the data file'[col 7, line 44-47,col 8, line 35-42,fig 5];

'limiting access to the first and second control structures to only a process that is expanding the data file while the process is expanding the data file'[col 9, line 4-13];

'allocating space for first and second control structures in the control file' [col 8, line 60-67, col 9, line 1-3];

'copying contents of the first and second control structures to space' [col 10, line 27-28];

'updating the first and second pointers to reference the first and second control structures' [col 8, line 28-34, col 10, line 27-44]. It is however, noted that Loaiza does not specifically teach 'pointers that respectively reference one or more bit maps, new versions of control file'. On the other hand, Weisz disclosed pointers that respectively reference one or more bit maps' [ col 13, line 16-23, col 16, line 42-47, new versions of control file' [col 12, line 20-23, col 16, line 47-54].

It would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Weisz into transportable tablespaces for hosting data of multiple users of Loaiza et al. because both Loaiza, Weisz are directed to relational databases, specifically database structures [Weisz: fig 2A-2B; Loaiza: fig 1], both Loaiza, Weisz are directed to data indexers [see Loaiza:

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col 11, line 46-48; Weisz: fig 2A, element 46], both Weisz , Loaiza specifically defines metadata related to database structure [see Loaiza: fig 1; Weisz: col 4, line 14-19].

one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Weisz into transportable tablespaces for hosting data of multiple users of Loaiza et al. because that would have allowed users of Loaiza to include any type of data objects, specifically data objects including defining abstract data types and re-transformed into a data object represented by abstract data types further associated with table identifiers that describes the location of the table [Weisz: col 4, line 51-65], bringing the advantages of not only efficiently handling transformation of nested tables, large arrays that forms parts of abstract data type, but also provides version control so that the arrangement can convert a data object from one version to another as suggested by Weisz: col 3, line 37-40, line 53-57], thus improves quality, reliability and performance of database system.

7. As to claim 2, 17,Loaiza disclosed 'maintaining in memory copies of the first and second pointers while the application data file is available for access' [col 4, line 10-18], Weisz disclosed 'updating the first and second pointers [col 11, line 13-19]to reference the new versions of the first and second control structures' [col 16, line 47-50].

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8. As to claim 3, 18, Loaiza disclosed 'multi-host data processing arrangement for sharing the application data file, the method further comprises, after a first host completes expanding the data file, transmitting a message from the first host to each other host, wherein the message indicates that the file has been expanded' [col 5, line 30-39].

9. As to claim 4, 19, Loaiza disclosed 'determining whether the first structure is large enough to accommodate expansion of the data file by a requested amount' [col 8, line 60-67, col 9, line 1-3]; 'performing the steps of allocating, copying, and updating only if the first structure is not large enough to accommodate expansion of the data file by requested amount' [col 9, line 23-36].

10. As to claim 5-6, 20-21, Loaiza disclosed 'plurality of application programs share the data file and are hosted on a plurality of host data processing systems (hosts) [col 6, line 65-67, col 7, line 1], the method further comprising conditioning expansion of a file shared by the application program on whether each host is configured to detect expansion of the data file by another host' [col 7, line 28-30, col 8, line 5-12]

**11. Claims 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anfinsen, US Patent No. 6751617 filed on July 28, 2000 and published on June 15, 2004 in view of Loaiza et al. [hereafter Loaiza] US Patent No. 6549901 published on April 15, 2003.**

12. As to claim 7, 14, Anfinsen teaches a system which including 'maintaining an in-memory copy of one or more selected control structures from a control file [col 1, line 14-18] while the application data file is available for access, wherein the application file is logically divided into a plurality of equal size cells, and each cell provides storage for one or more records of data [col 2, line 18-20, line 23-28, col 5, line 57-61];

'maintaining in the control file a first structure that contains pointers to second [col 7, line 5-8] and third structures in the control file, wherein the second structure includes a plurality of pointers that respectively reference bit maps of the cells of the application file' [col 7, line 15-24, the third structure contains respective values' [col 7, line 51-57, col 8, line 40-46];

'locking the first and third structures within the control file' [col 8, line 19-24, fig 3];

'copying data from the second structure to the fourth structure and data from the third structure to the fifth structure' [col 18, line 1-8];

'updating in the first structure respective pointers to the second and third structures to reference the fourth and fifth structures, respectively' [col 20, line 46-55];

'unlocking the first structure and the third structure after the pointers have been updated' [col 23, line 15-31]. It is however, noted that Anfinsen does not specifically



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teach 'available space particularly, allocating in the control file space for a fourth structure and space for a fifth structure, wherein the space allocated for the fourth structure is greater than space occupied by the second structure, and the space allocated fo the fifth structure is greater than space occupied by the third structure.

On the other hand, Loaiza disclosed basic concepts of tablespace, more specifically table space to store data for a table or index in a database or relational database [col 3, line 24-25, line 38-42], further Loaiza also suggests tablespace through the use of database schema where database schema is a set of database objects [col 4, line 64-67].

It would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Loaiza et al. into data structures for implementing nested database of Anfindsen because both Anfindsen, Loaiza are directed to database management, more particularly, database structures [see Anfindsen: Abstract; Loaiza: Abstract, fig 1]. Anfindsen also teaches multiple databases or multiple data structures or nested databases allows multiple users to access transactions.

one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Loaiza et al. into data structures for implementing nested database of Anfindsen because that would have allowed users of Anfindsen to assign required tablespace, further store a data for a user in particular tablespace depends on the requirements as suggested by Loaiza col 3, line 52-55, also allows to exporting data

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for a particular user to another database system in a efficient manner as suggested by Loaiza [col 2, line 23-27].

13. As to claim 8, 10, Anfindsen disclosed 'locking the third structure' [col 11, line 22-35, fig 9]; 'comparing a control file version of the pointer to the control file version of third structure, to an in-memory version of the pointer to the control file version of the third structure' [col 11, line 40-49]; 'if the control file version and in-memory version of the pointer are not equal, then updating the in-memory versions of the pointers to the control file versions of the second and third structures, with the control file versions of the pointers to the control file versions of the second and third structures' [col 12, line 25-40]; 'copying the contents of the third structure in the control file to the in-memory version of the third structure' [col 12, line 52-62]; 'unlocking the third structure' [col 13, line 4-12].

14. As to claim 9, Loaiza disclosed 'multi-host data processing arrangement for sharing the application data file, the method further comprises, after a first host completes expanding the data file, transmitting a message from the first host to each other host, wherein the message indicates that the file has been expanded' [col 5, line 30-39].

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15. , As to claim 11,Loaiza disclosed 'determining whether the second structure is large enough to accommodate expansion of the data file by a requested amount' [col 8, line 60-67, col 9, line 1-3, line 6-13]; 'performing the steps of allocating, copying, and updating only if the second structure is not large enough to accommodate expansion of the data file by requested amount' [col 9, line 23-36, line 59-64].

16. As to claim 12-13, Loaiza disclosed 'plurality of application programs share the data file and are hosted on a plurality of host data processing systems (hosts) [col 6, line 65-67, col 7, line 1], the method further comprising conditioning expansion of a file shared by the application program on whether each host is configured to detect expansion of the data file by another host' [col 7, line 28-30, col 8, line 5-12]

### ***Conclusion***


#### **The prior art made of record**

- |    |               |         |
|----|---------------|---------|
| a. | US Patent No. | 6549901 |
| b. | US Patent No. | 6128621 |

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is 571-272-4108. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alam, Hosain, T, can be reached on (571) 272-3978. The fax phone numbers for the organization where the application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

SC  
*Patent Examiner.*  
January 23, 2006.

  
**SRIRAMA CHANNAVAJJALA**  
**PRIMARY EXAMINER**